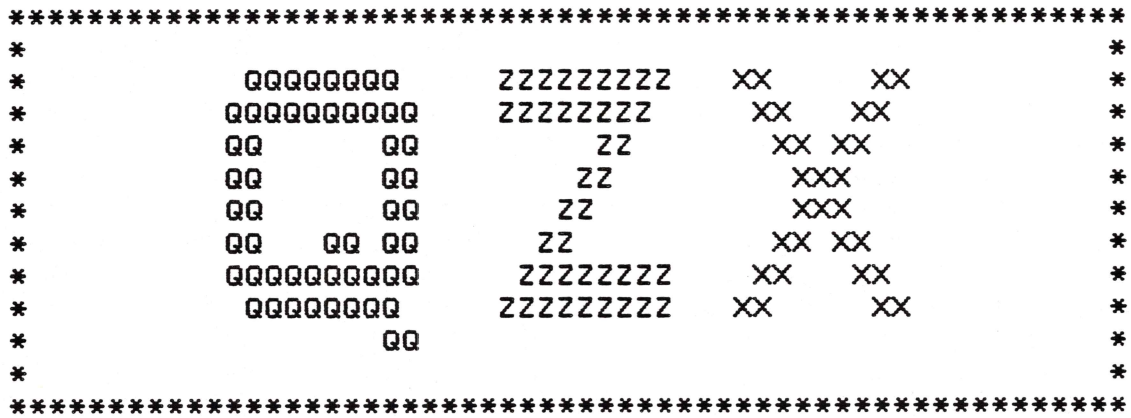
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The Journal Covering Amateur Radio & Sinclair Computers
ZX-80; Micro-Ace; ZX81; T/S 1000, 1500, & 2068; QL
Alex. F. Burr, K5XY, Publisher
2025 O'Donnell Drive
Las Cruces, New Mexico
88001

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EDITOR'S NOTES
K5XY

Well back in Las Cruces for more than a few days. This has been a busy summer, but now I have two weeks to put out QZX and prepare for the coming school year. I may even get on the air for a little bit. I spent part of June in New York, most of July in Cameroon, and the first part of August in North Carolina (or North Dakota), so this issue of QZX is a bit late but will still get to you in August.

All these travels had their connections to amateur radio or computers but not to the connection between them which I would like to write about. And unfortunately the computers did not involve any Sinclair model.

I was sent to Cameroon by the International Atomic Energy Agency to install some electronic equipment and teach others how to operate it. I thought I was to interface it to a computer too, but I was so busy getting the laboratory properly wired that my time ran out before we got to that stage. The computer involved was an IBM XT with two hard disks anyway. But I did learn something about the status of amateur radio in the country.

There are three obstacles of varying degrees of severity in the way of amateur radio operation in Cameroon: getting to the country, obtaining operating permission, and passing equipment through customs. All three problems appear surmountable. The information given here is current as of July 1988.

Cameroon is a small west central African country with a stable government and a surprisingly mild climate. The capitol, Yaounde, is a short half hour plane ride from Douala, the main port of entry. The county is poor with a resonably developed infra-structure. Power is 220 volts, 50 cycle AC. Power is stable, at least during the summer rainy season, when hydro-electricity is plentyful. Car batteries are easy to obtain and many places advertise a charging service. Taxis are plentyful (negotiate the fare before entering) and parking places are not. The official languages are French and English. All government officials are supposed to understand both, some do. Most prefer to speak French.

A visa ($32) is required as are vacinations against yellow fever and cholora. Precautions against malaria are recommended. All entry documents are carefully checked. A return or ongoing ticket is required. A local address MUST be given. The address can be a hotel, but it must be a specific hotel.

International class hotels are available in Yaounde, including a new Hilton under construction. A more interesting hotel is the La Progres, a three story small hotel. Large well-furnished rooms are available with bath and air conditioning, which often work. The standard of maintenance is about that of a motel one class below Motel 6. The prices are about that of the Holiday Inn. The food is good. The manager, who speaks some English, might not object to a resonable antenna on the large flat roof.

Amateur licensing is under the jurisdiction of the Ministere des Postes et Telecommunications housed in a fine modern building on the top of a hill west of the Hilton Hotel. Licenses are issued by the Bureau de Frequences et de Radiolelectricite Privee. Unfortunately this office is housed in an auxilliary office building. It has no street address. Mothing in Cameroon has a street address.

The following information was obtained from the director of the Bureau de Frequences et de Radioelectrite Privee. It represents a personal interpretation of what was said and is in no way official. More

detailed information was not obtained because he is a busy man. At the time I was in his office (8x10 foot) there were never less than six other people in the room.

The four page form to be filled out is written entirely in French and is designed for businesses desireing to set up a nulti-station communications system. It should be filled out in quadruplicate. It contains such questions as the name and address of the boat to be used. Only the pertinent questions need be answered. These questions include location, type of equipment, power, antenna, frequencies, and person responsible. The filled out and signed form is to be taken to the post office where a 10,000 Franc ($40) fee is assessed. The stamped form is returned to the Bureau where the decision is made. There are no tests. One does not have to be a Cameroonian national. One does not have to show proof of licensing by any other country. It was implied that a decision would be made quickly. The concept of an amateur licenser is well formed. It is estimated that about 100 licenses have been issued. The possibility exists that anybody can operate an existing amateur station (presumably under the supervision of the licensee).

The officials and secretaries (who can direct you to the correct office) are polite and friendly but have little patience with people who do not understand what to them is obvious. It would be very difficult for somebody who did not speak French or have a personal translator to complete the process. It does not appear practical to obtain a license by mail. It is also not evident that the procedure has to be done in person. A representative might suffice.

It is not known what duty would be assessed on incoming radio equipment with or without a license. The Cameroonian Embassy might be able to give details here. It is clear that air freight must be cleared by customs and will almost certainly be assessed something. Personal baggage, including hand baggage, brought in by an individual is carefully and completely inspected. The function of all unfamiliar objects is questioned. a laptop computer was passed after its function was explained. The immigration and customs personnel are couteous but inflexible. They usually speak some English. It would be a mistake to offer a gratuity for expeditious service (i.e. don't try to bribe the officials).

r I can give much more information about the county to anybody who is interisted, but I have no more information about amateur affairs. I was able to interest one national in applying for a license. he is a knowledege person (he heads a government laboratory and has a Ph.D. in computer science) but, as a middle level government employee, does not have a large amount of money for a hobby. In fact while I was there the government ran out of money and he was not paid for July.

The laboratory I was working with had an Apple II plus and a Lisa computer as well as the IBM. The county was building a new main frame computer facility, but there were no personal computers for sale in any of the electronics stores I saw in the capitol city. Calculators were sold on the street corners, but no personal computers of any kind. Even in the airport at Frankfort, which is known for selling electronic gadgets, had only one uninspiring Panasonic personal computer for sale. All the models which I had seen there before, including all the Sinclair types, were gone.

My other trips involved looking for software useful for teaching physics and electronics. Again, Sinclairs were conspicuous buy their absence. Most of the new good software is being written for MSDOS machines. Some were using the new IBM PS2 machines but the OS2 software is too new for anything to be written for it. Some people were still programming for the old Apple IIe and doing a good job too.

Two things particularly impressed me. First, the cost of the computers still prevent many schools from getting any computers or at least as many as they would like. Second, it is the graphs and graphics which make the good programs useful. These observations make the lack of current production of the T/S 2068 and QL even more of a disappointment.

I took a computer with me on all the trips. To Cameroon I took a Tandy Model 100, but I had some software trouble with it and ran out of memory. I took a Zenith 181 with me on the US flights, but it got really heavy when I had to walk the length of the Minneapolis St Paul airport twice. I certainly could have used a Sinclair Z88, but I have not yet been able to afford one.

Well the next time I hope to connect Sinclair computers and amateur radio a little more closely. The next issue will have an article by WA6DLI and some programs for the ZX 81. In the meantime enjoy the information in this issue.

A COLOR TEST FOR THE T/S 2068

K5XY

Here is a short program which can be used to test the color circuits of the T/S 2068. The program will display horizontal blue, red, and green bars on a monitor connected to the composite video output jack (J7). Before running the program, make sure the color and tint controls are set properly on the monitor.

```
10 BORDER 0
20 FOR X = 1 TO 22
30 PAPER 1 : PRINT"          "
40 PAPER 2 : PRINT"          "
50 PAPER 4 : PRINT"          "
60 NEXT X
70 GOTO 20
```

NOTE: Put 10 spaces between the quotes in line 30 and 11 spaces between the quote in lines 40 and 50.

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EQUIPMENT SPECIALS

This is a occasional column in which we will list some of the equipment in which we think our readers will be especially interested or which appear to be special bargains. If you have suggestions for items to appear here send them in. If you have comments on the items which appear here send them in too. The information here is as accurate and as complete as we can make it, but is listed here only as an indication as to what might be available. Any decision to purchase should only be made after further investigation.

ITEM	COMMENTS	$	ID
ZX81	Computer only	$20	HT
WC2050	untested modem	$10	GC
2050 to rs232 conversion		$20	ZS
MTERM II for T/S 2068		$30	ZS
Above	in cartridge form	$35	ZS
The Complete Guide to MTERM II			
	Booklet on MTERM II	$ 7	BC
TS2068		$140	SE
TS1500	complete	$80	SE
TS1000		$40	SE
Computer Repair		varies	SE
Computer Repair		varies	DE
TS2068 - spectrum romswitch		$40	RE
T/S software		varies	WM
QL hardware + software		varies	SH
T/S 2068 packet stuff		$60	GC
T/S 1000 packet stuff		$55	AE
T/S 1000 software		varies	TC

ID	Addresses
HT	Hal-Tronix, Inc. Box 1101 Dept QZX Southgate, MI 48195 (313) 285-1782
ZS	Zebra Systems 78-06 Jamaica Ave. Dept QZX Woodhaven, NY 11421 (718) 296-2385
SE	Sunset Electronics 2254 Taraval Street Dept QZX San Francisco, CA 94116 (415) 665-8330
BC	Barry Carter Box 614 Dept QZX Warren, MI 48090
RE	G. Russell Electronics RD1 Box 539 Dept QZX Centre Hall, PA 16828 (814) 364-1325
WM	WMJ Data Systems 4 Butterfly Drive Hauppauge, NY 11788 (516) 543-5252
DE	Dan Elliott RT1 Box 117 Cabool, MO 65689 (314) 739-1712
GC	Ed Grey Enterprises Box 2168 Inglewood, CA 90305 (213) 759-7406 (213) 971-6260 (BBS)
AE	A. Eckhardt 918 Anna Street Boalsburg, PA 16827
SH	Sharp's Inc. RT 10 Box 459 Mechanicsville, VA 23111 (804) 746-1664
TC	T&C Services 20 Liberty Terrace Buffalo, NY 14215

A letter review
K2MI, founder of QZX

46 Magic Circle Drive
Goshen, NY 10924
19 July 1988

SUBJECT: Heath Pocket Packet - Another Review

TO: Alex F. Burr, K5XY
2025 O'Donnell Drive
Las Cruces, NM 88001

Dear Alex,

Here's a note to let you know K2MI is still alive, and enjoying every issue of QZX! You and Bo have done a great job with QZX. Please pass my compliments and good wishes to Bo when next you communicate with him.

I first heard about the Heath Pocket Packet, with built-in BBS, from WA2LQQ, president of AMSAT, who happens to live about 10 miles South of Goshen. Rip demonstrated a truly portable BBS, with the HK-21 in his pocket, an H/T on his belt, and a Tandy 1400 laptop in his hands, walking around while I connected to his BBS, then stored and retrieved messages. And I thought I had a portable packet system! I used a Radio Shack Model 100 laptop with 32K memory, Kantronics KP-1 TNC, and Yaesu FT-209RH H/T. It ran on batteries, but not for long because the TNC draws around 300 ma. Rip told me the Heath draws only 45 ma, and I was hooked on the spot. I ordered mine the next day, but had to wait about 6 weeks to get it. Now it is K2MI-2 on our LAN frequency of 145.570.

Overall, I like the size (it fits in a shirt pocket), light weight (just a few ounces), built-in BBS, and light battery drain, but...there are a few things I would like to share with others before they spend about $235 to get one.

Yes, Bob, the HK-21 manual is very complete, on everything EXCEPT the BBS. It only has two pages on BBS operations, and they are very, very incomplete. As sysop, I had to do a lot of experimenting to find out what I and users could and could not do. These are not documented at all: You may use "L" or "F" to list messages. You may use "S" or "W" to send messages. You may read or kill messages to or from yourself, you may read messages to "ALL", but all others are considered private and may only be read or killed by the originator or the addressee. Even the sysop can not kill third-party messages without lying to the HK-21 a little bit (at work they call me "Vice-President in charge of lying to computers"...hi hi).

The BBS is crude...a first-generation attempt, I would say, but it does work...for most people. Two of my users have become very frustrated because the HK-21 keeps sending them "ERROR" returns for what appear to be perfectly valid HK-21 commands. Once it has sent "ERROR", the HK-21 has a nasty habit of sending it repeatedly until the user disconnects externally (the HK-21 frequently will not even let them use the "B" (bye) command). One of these poor souls has a Commodore 64 and PK-64 Pakratt just like mine. We set all parameters identical. Mine worked with the HK-21 and his did not. Frankly, I don't have a solution yet, and my one phone call to Heath brought no solution.

Maybe I have a prototype in disguise and later HK-21's have better documentation, fewer bugs, and better English on the Help screens. Would I buy another...probably, because it is about the most convenient TNC/BBS I have seen yet, and portability is very important to me. I own three laptop computers and can put three packet stations on the air simultaneously. I recently took my Model 100, HK-21 and FT-209RH to Florida and had fun with it during the limited time I could spend on amateur frequencies. The Heath let me retrieve messages when I got back to the house...an amateur radio answering machine, if you will. Incidentally, many packeteers in this area have not yet learned that packet radio is best utilized as an answering machine which will not work unless you turn it on and leave it on, and that it is a lousy QSO medium...much, much, much too slow because of retries and hunt-and-peck operators. I make my living with a mainframe computer, so I can type about 60 wpm, many times faster than many packeteers around here, so the conversations tend to be rather one-sided. My advice to packeteers is: (1) leave your packet station on when you are home and awake (as a minimum) and (2) connect on packet and then switch to VHF or UHF voice for your QSO.

I would appreciate hearing from anyone who knows how to get around those frustrating ERROR messages that the HK-21 sends to 2 but only 2 of my users. That is the major drawback on the HK-21. I suspect their second-generation version will not have that problem, and will have decent BBS documentation.

This started out to be a note adding some observations from a long-time packeteer to WA6DLI's review of the HK-21 in your July 1988 issue. I may have digressed a bit, but as I said before, I always enjoy QZX very much, I am deeply into packet, and I haven't written to you for so long that I had a lot to say.

So, Alex, I thank you for QZX, and I send my 73 to all Sinclair users, especially "the old gang'. The days when I published QZX were great days, when I met great people and our combined rate of progress was excellent. God bless all of you!

Marty

Marty Irons, K2MI

(Printed via Toshiba T-1100 laptop, Lotus 1-2-3, Okidata 82 printer

QL SOFTWARE
WA6DLI

Those who have Sinclair QL's might think that they are off in left field when it comes to software. Actually, the programs availabvle for the QL from England via Curry, Sharps, and other surviving mail order dealers are very good. They are not as low cost as Sinclair Spectrum offerings, but are not extreme in cost like a lot of domestic software for the Mac and IBM/clones. The average range for professional QL programs is $25 to $90.

What is not so well known is that there is a vast library of utilities and user written programs (including authors of professional works) that are almost free. If you are a member of the British user group QUANTA (QL Users and Tinkerers Association) you can get programs free in many cases or with a small royalty fee for others. If you joined QUANTA, a necessary requirement to get the programs, you can in addition to a very good newsletter, get individual programs for a small disk cost and fee if any. If you buy the whole set of about 16 DSQD 5 1/4 disks, you can pay $105 for all royalties, disks included. Only $10 more for a 3 1/2 inch disk set. This is the current offer of the USA Quanta Librarian, Tom Bent.

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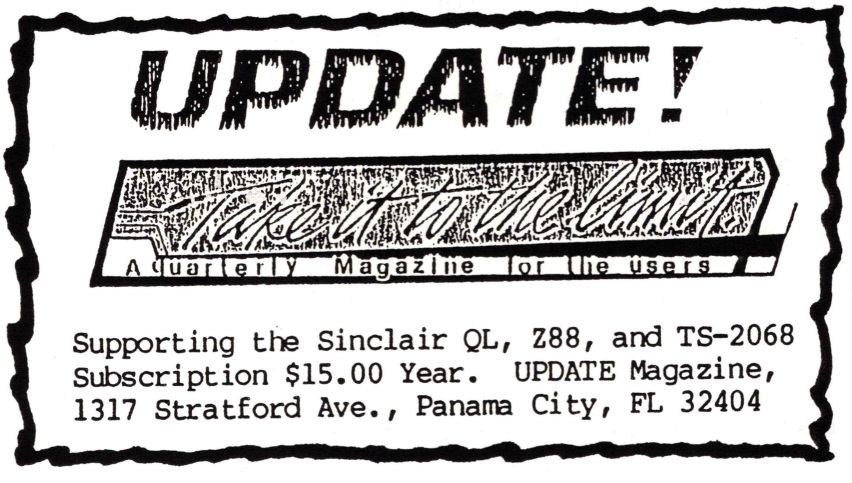
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QZX BBS

The QZX BBS (Bulletin Board System) is no more. The telephone bulletin board service which contained advanced copies of QZX articles and copies of programs which appeared in QZX is no more. The system of which the QZX files were a part has been dismantled. QZX can still be reached by FIDOMAIL however, as there is no lack of Fido or Opus boards in Las Cruces. The Fido address is net 15, node 26 or 15/26. I do not believe that many of our readers made use of the ability to download QZX files. I do know that, aside from Bo and myself, only two readers ever uploaded any files. If any readers think that they would like to download of upload files by telephone, drop me a card. If there is sufficient interest, I will make arrangements to revive the QZX file area.

BITS AND BYTES

129 Warning: SuperBASIC on the QL does not assume that numeric variables start with a value of zero or anything else. You must assign some value to a variable before doing any arithmetic, otherwise you will get an error message saying that there is an "error in expression". This difficulty often shows up in the program lines that increment a variable. One can always assign explicitly the value of zero at the start of a program.

130 Here is another way you can mess up the T/S 2068 if you want to. Pressing ENTER multiple times with an invalid tape command on the edit line (syntax error) causes the system to reset. This action is due to overflowing the Bank Status Stack in RAM Chunk 3/7 due to the multiple calls to and from the Extension ROM via the Call_Bank code without normal termination. The error causes a RESTART 8 to be executed out of Home ROM code called from the ROM extension. This difficulty is not a real problem because it should not take anybody that many tries to get a tape command right, but you may want to keep it in mind. For any call made through the OS RAM services, you should have a corresponding return to keep the structures clean.

131 The speaker in the T/S 2068 is not your ordinary 8 ohm radio replacement type but is a 40 ohm intercom type speaker.

132 To have the T/S 2068 indicate the acceptance of a keystroke with a beep instead of a click, enter POKE 23609,100. The 100 in the instruction sets the duration of the tone. The default value is the 0 which gives the standard click. The suggested 100 gives a nice short tone. The number can be made as large as 255 before the computer complains with a parameter out of range error message. I have not the faintest idea as to why the maximum acceptable number is 255 instead of the expected 254.

QZX FRIENDS

WA3QLW -- Leslie has recently moved into an apartment and is working as a consultant in communications and computer systems as well as manager of a computer service shop.

W*6POW -- Jim is a retired audio engineer. He has a modified T/S 1000 with video output, BENT EPROM for the ROM, many filter modifications, and both 16K and 64K RAM. He prefers the Timex 16K RAM. He is facinated with what a $30 computer can accomplish.

W4EDL -- Bob has two ZX81's with Suntronics keyboards. He has modified them to have 64k internal RAM as suggested by Tim Stoddard in a Times Designs article. He says that this is an excellent mod; and, that if you do the entire thing, you can run machine code to 48k, no small feat for a machine that started out at 1k. The whole mod only reqiures 4 chips for a total of about $25.00.

UNCLASSIFIED ADS

WANTED: UNCLASSIFIED ADS for publication in QZX. Cost is 1 cent for each keystroke (characters, blanks, etc.). Payment must be included with order. This is an excellent way to sell your program or unwanted equipment, ask for help, or find a specific program. Send your ad with payment to QZX, 2025 O'Donnell, Las Cruces, NM 88001.

FOR SALE: Index to QZX consisting of a book of xerox copies of all the covers since December 1982. Send $5.00 plus $1.00 shipping and handling ($2.00 if to a non-US address) to QZX, 2025 O'Donnell, Las Cruces, NM 88001.

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FOR SALE: Book ZX81 BASIC Book by Robin Norman. Paperback 190 pages. Originally $12.95 now $6.00 postpaid in US. Simple and clear introduction to ZX81 BASIC. Alex. F. Burr, K5XY, 2025 O'Donnell, Las Cruces, NM 88001.

FOR SALE: Book Easy-up Antennas for Radio Listeners and Hams by Edward Noll. Paperback (1988) 162 pages. Originally $16.95, now $11.00 postpaid in the US. A Sams publication. The title says it all. Alex. F. Burr, K5XY, 2025 O'Donnell, Las Cruces, NM 88001.

QZX Discount: 15% discount on all orders mentioning QZX. T & C Services (address in ad this issue.)

73, K5XY

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